

Access and Nature Conservation Assessment Pro forma

This pro forma complements the Access and Nature Conservation Guidance Note which sets out Natural England's agreed process for undertaking an Access and Nature Conservation Assessment for access related plans or projects. It is to be used for the consideration of likely significant effect on Natura 2000 sites or impacts on sensitive habitats and species based on anticipated changes to access levels and patterns arising from the implementation of access proposals

THIS ASSESSMENT HAS BEEN COMPLETED BY ADRIAN GARDINER (RO – WINTERTON-HORSEY DUNES SSSI), RICK SOUTHWOOD (SENIOR RESERVES' MANAGER – WINTERTON DUNES NNR) AND SUE REES (COASTAL SENIOR SPECIALIST).

Stage 1 - INFORMATION GATHERING

Please complete in as much detail as possible. Information gathered here will contribute to later stages of the process.

| Basic Site Information (All fields mandatory) | | | | | | | | | |
|---|---|-----------------------------|---|---|--|------|---|-------------------|---|
| Please tick one: | | | | | | | | | |
| SPA | ✓ | SAC | ✓ | Ramsar | | SSSI | ✓ | Sensitive Feature | ✓ |
| Site/Sensitive Feature Name: | | Winterton-Horsey Dunes SSSI | | | | | | | |
| Site Area (ha): 426.95 | | | | County: Norfolk | | | | | |
| Grid Reference: TG482221 | | | | Date of designation: March 1 st 1989 | | | | | |
| NE Case Officer: Diana Curtis | | | | NE Responsible Officer consulted: Adrian Gardiner | | | | | |

Reasons for designation – Interest Features

Note: the last condition assessments were carried out on June 30th 2008 and are therefore now 5 years out of date; the same judgements of condition would not necessarily be made now.

SAC – European Interest Features

The site is designated as SAC for the following Annex I habitats as described on JNCC SAC selection pages:

2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea) * Priority feature

Winterton – Horsey Dunes is the only significant area of dune heath on the east coast of England and also includes areas of acidic dune grassland as an associated acidic habitat. The contrast with the nearby calcareous and species-rich dunes of north Norfolk is marked. The Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) vegetation is characteristic of dune heath in an eastern locality with low rainfall. The drought-resistant grey hair-grass *Corynephorus canescens* is a characteristic species of the open dry dune soils.

2190 Humid dune slacks

The slacks within Winterton – Horsey Dunes are chiefly of interest because they occur on an extremely base-poor dune system on the dry coast of East Anglia in eastern England. Because of their acidic soils, the dunes support swamp and mire communities, in addition to small areas of typical dune slack vegetation characterised by creeping willow *Salix repens* ssp. *argentea* with *Calliargon cuspidatum* and Yorkshire-fog *Holcus lanatus*. As a result they represent an extreme of the geographical range and ecological variation of Humid dune slacks within the UK.

2110 Embryonic shifting dunes

2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

Note: there are a range of different sub-communities of H2120 that have been recorded reflecting different levels of sand mobility, and leading into semi-fixed dunes with a wider range of species. Also present on the site, and forming a matrix that links the dune heath with the more mobile dune features, are elements of fixed dune acidic grassland. The dune heath priority habitat includes all areas of dwarf-shrub heath, lichen-dominated acidic substrates and acid dune grassland (the latter supporting the rare species *Corynephorus canescens*). In addition, communities that are intermediate between shifting dunes and more stable sand should be considered as part of this habitat. The dune slacks have recently been surveyed by CEH under an MOA with Natural England. These are described as being closer to NVC mire (M) communities than the dune slack (SD) communities with gradations to dwarf shrub heath. This survey provides a repeatable method to assess further change in some of the wetland areas. Priority habitats are those which have to be considered very thoroughly in any assessment process (usually rare/fragile habitats). Winterton is one of 5 English SACs selected for dune heath (and one of only 10 in UK), which has an extent of <200 ha in England.

Key message: The dune vegetation communities on this site are varied, with key Annex I habitats supported and linked by different stages of dune succession. The dune heath is a priority habitat and so must not suffer any further fragmentation or deterioration. Previous damage needs to be restored urgently and be part of the access implementation. It is not acceptable just to monitor and wait for signs of damage before taking action.

| Interest Feature/Sensitive Feature | | | Condition of feature (% area of units containing the feature) based on assessment 2008 | Reasons for unfavourable status |
|------------------------------------|---|---|--|--|
| Dwarf Shrub Heath | SAC Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>) SSSI H1 <i>Calluna vulgaris-Festuca ovina</i> heath | Lowland heathland | Favourable 82.5% Unfavourable recovering 17.5% | This feature is extremely rare nationally and highly sensitive to erosion; it is currently considered at the limit of acceptable levels of anthropogenic erosion. |
| | SAC Humid dune slacks SSSI M16 <i>Erica tetralix-Sphagnum compactum</i> wet heath | Wet heath | Favourable 80.3% Unfavourable recovering 19.7% | This is possibly incorrect as there has been a deterioration in the water quality of the dune slacks; this may not have affected the vegetation community, but has impacted the natterjacks dependent on the slacks. |
| | Assemblage of breeding birds | Mixed assemblage of breeding birds: heath, sand dunes & scrub | Favourable | |
| Supralittoral Sediment | SAC Embryonic shifting dunes SSSI | Strandline vegetation | Favourable 6.4% Unfavourable no change 93.6% | Currently assessed as unfavourable due to hard coastal sea defences and |

| | | | | |
|--|---|---|---|--|
| | SD2 <i>Honkenya peploides-Cakile maritime</i> ; annual vegetation of drift lines | | | lack of natural processes in the mobile dune communities; current level of anthropogenic erosion is an issue in places. |
| | SAC Embryonic shifting dunes SSSI SD4 <i>Elymus farctus</i> ssp. <i>Boreali-atlanticus</i> foredune community; embryonic shifting dunes | Shifting dunes | Favourable 6.4% Unfavourable no change 93.6% | Currently assessed as unfavourable due to hard coastal sea defences and lack of natural processes in the mobile dune communities; current level of anthropogenic erosion is an issue in places. |
| | SAC Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) SSSI SD6 <i>Ammophila arenaria</i> ; shifting dunes along the shoreline with <i>Ammophila arenaria</i> | Mobile dunes | Favourable 65.3% Unfavourable no change 34.7% | Currently assessed as unfavourable due to hard coastal sea defences and lack of natural processes in the mobile dune communities; current level of anthropogenic erosion is an issue in places. |
| | SD7 <i>Ammophila arenaria-Festuca rubra</i> ; fixed dunes with herbaceous vegetation | Fixed dune grassland | Favourable 82.5% Unfavourable recovering 17.5% | This feature is extremely rare nationally and highly sensitive to erosion; it is currently considered at the limit of acceptable levels of anthropogenic erosion. |
| | SD9 <i>Ammophila arenaria-arrhenatherum elatius</i> ; fixed dunes with herbaceous vegetation | Fixed dune grassland | Favourable 82.5% Unfavourable recovering 17.5% | This feature is extremely rare nationally and highly sensitive to erosion; it is currently considered at the limit of acceptable levels of anthropogenic erosion. |
| | SD11 <i>Carex arenaria-Cornicularia aculeate</i> ; fixed dunes with herbaceous vegetation | Fixed dune grassland | Favourable 82.5% Unfavourable recovering 17.5% | This feature is extremely rare nationally and highly sensitive to erosion; this community is particularly susceptible, due to the lichen component of the SD11; it is currently considered at the limit of acceptable levels of anthropogenic erosion. |
| | SD12 <i>Carex arenaria-Festuca ovina-Agrostis capillaris</i> dune grassland | Fixed dune grassland | Favourable 82.5% Unfavourable recovering 17.5% | This feature is extremely rare nationally and highly sensitive to erosion; it is currently considered at the limit of acceptable levels of anthropogenic erosion. |
| | Vascular Plant Assemblage: <i>Dryopteris cristata</i> <i>Corynephorus canescens</i> <i>Festuca arenaria</i> <i>Pyrola rotundifolia</i> ssp | Plant species: Crested buckler-fern Arid grey hair grass Rush-leaved fescue Round-leaved wintergreen | Favourable | This may not be favourable as some species appear to have declined/ disappeared. <i>D. cristata</i> may never have been present; <i>P. rotundifolia</i> has not been seen for a number of years. |
| | Assemblage of breeding birds | Mixed assemblage of breeding birds: heath, sand dunes & scrub | Favourable | |
| | SPA <i>Sterna albifrons</i> | Little tern | Unfavourable no change | This may now be considered incorrect as the terns have generally done better at Winterton as the Ness has built and can probably now be considered as unfavourable recovering. |
| Pools | <i>Bufo calamita</i> | Natterjack toad | Favourable | This is likely to be incorrect as there has been a deterioration in the water quality of the dune slacks. This has partly been mitigated by the creation of artificial pools. |
| Active Process Geomorphological Sites (IA) | Coastal morphology | Winterton Ness – from northern part of NNR to southern end of SSSI. Dynamic cusped foreland, well-developed dunes and sandy beach (see site management brief, Environmental impacts team) | Unfavourable no change | Currently assessed as unfavourable due to hard coastal sea defences and lack of natural processes in the mobile dune communities; level of current anthropogenic erosion may be an issue but has not been assessed. |

Other plans or projects to be considered (for in-combination)

Greater Norwich Development Partnership's Joint Core Strategy.

Existing levels of recreational use of the site need to be taken into consideration when considering the implications for condition of the notified features of interest (see section 2 for the assessment of current levels of erosion in relation to the features of interest on the site).

Completion of Stage 1 – Please complete as appropriate

Responsible Officer Signed:



Name: Adrian J. Gardiner

On behalf of Natural England Date: July 1st 2013
 (revised – October 22nd 2013, July 7th 2014 [inclusion of European feature information, Sue Rees])

Stage 2 – Sensitive Feature Assessment

Category A/ EPS features assessment

Do any of the Interest Features/Sensitive features appear on the Category A species list (see Guidance Note)? (Please tick grey box)

| | | | |
|-----|---|----|--|
| Yes | ✓ Little tern, ringed plover, nightjar | No | |
|-----|---|----|--|

If yes, could the proposals pose a significant risk to this feature? If no consider European Protected Species (EPS) (below)

| | | | |
|-----|---|----|--|
| Yes | ✓ | No | |
|-----|---|----|--|

If yes, provide more detail in the table below. If no consider EPS (below)

Are any European Protected Species (EPS) present on site (where not features of the designation)?

| | | | |
|-----|--|----|--|
| Yes | ✓ Natterjack toads, great-crested newts | No | |
|-----|--|----|--|

If yes, could the proposed proposals pose a significant risk to damaging or disturbing EPS or their habitat? If no – proceed to Stage 3 Access Assessment

| | | | |
|-----|---|----|--|
| Yes | ✓ | No | |
|-----|---|----|--|

If yes, please enter details of the EPS species and their sensitivity to access related activities on the site in question in the tables below. See part 5.0 of the Guidance Note for more information.

If no, give reasons: e.g. bat roost is set away from the coastal margin, therefore no likely impact from Coastal Access.

Category A species/European Protected Species present on site

| Category A/EPS species | Sensitivity to access |
|---|---|
| Category A/EPS species 1 Little tern <i>Further information:</i> Part of the Great Yarmouth/ Winterton SPA population; the colony size at Winterton over recent years has been up to about 200 pairs; the colony at Winterton is centred on the Ness and the colony size is related to the state and extent of the Ness at any given time, as well as the suitability of other nesting sites in the area. | Colonial breeder – usually associated with beaches and known to be adversely affected by recreational access disturbance, nest trampling and predation. |
| Category A/EPS species 1 Ringed plover <i>Further information:</i> The number of breeding pairs over recent years has been up to about 10 pairs; breeding pairs at Winterton are found along the coastline where suitable habitat is found, though all of the breeding activity in recent years has been within the little tern protected area at the Ness; this species would be more widely distributed along the coastline if access pressure was less. | Restricted to beaches and known to be adversely affected by recreational disturbance. At least one important population has suffered a large decline due, in part at least, to disturbance, nest trampling and predation. |
| Category A/EPS species 1 Nightjar <i>Further information:</i> The number of breeding pairs over recent years has been about 4 pairs; breeding pairs at Winterton are found in the dune heath and scrub/ woodland edge habitat. | Associated with relatively restricted habitats and known to be adversely affected by recreational access. Relatively dispersed across suitable habitat. |
| Category A/EPS species 1 Natterjack toad | |

| | |
|--|---|
| <p><i>Further information:</i> The number of tadpoles over recent years has been in the low 100s; breeding success has been poor due to water quality at the breeding sites; Natterjacks at Winterton breed in the natural dune slacks and a number of artificial pools; the adults and young animals forage, feed and hibernate throughout the mobile and fixed dune habitat</p> | <p>Natterjacks are sensitive to human disturbance, dogs and trampling. Generally their greatest challenges arise from habitat change (e.g. water quality/ quantity changes to breeding pools; increase in rankness of dune vegetation).</p> |
| <p>Category A/ EPS species 1 Great-crested newt</p> | |
| <p><i>Further information:</i> The breeding population over recent years is unknown, although is generally considered to be low and poor due to the water quality issues in the breeding pools; great-crested newts at Winterton breed in the natural dune slacks and a number of artificial pools; the adults and young animals forage, feed and hibernate throughout the mobile and fixed dune habitat</p> | <p>Great-crested newts are sensitive to human disturbance, dogs and trampling. Generally their greatest challenges arise from habitat change (e.g. water quality/ quantity changes to breeding pools).</p> |

Natura 2000 and SSSI features assessment

The table below includes features not covered by the Category A/ EPS tables above, and is taken from the Habitats' Regulations' Assessment carried out on December 11th 2012 (Southwood & Gardiner, 2012).

| Potential effect | Interest feature likely to be affected | The mechanism/ pathway of effect |
|--|--|--|
| <p>1. Beach features (included in relation to proposed 'spreading room')</p> | | |
| Trampling | SD2 – embryonic dunes (SAC feature) | Vegetation damage – reduced extent of feature. This is currently mainly located around Winterton Ness, but can occur anywhere along this stretch as conditions allow. The effect is considered negligible; the embryonic dunes are transitory and resilient; they often occur in areas away from the heaviest pressure from people. |
| Trampling/ disturbance | Little tern (SPA feature) (see category A/ EPS table above) | Direct disturbance leading to reduced breeding success; trampling of nests. Measures already in place due to fencing and wardening provision. |
| Disturbance | Grey seal (non designated feature due to relatively recent development of colony) | Direct disturbance, especially from dogs to adults and pups. Measures already in place due to temporary beach closure between early November and mid January, and due to wardening provision. |
| Nutrient enrichment/ disease transmission | All features particularly grey seal. | Nutrient enrichment from dog faeces/ transmission of disease. Effect considered low due to tidal washing, and measures in place related to seal pupping. |
| <p>2. 'Mobile' dunes features (included in relation to proposed 'spreading room')</p> | | |
| Trampling | SD6 – 'mobile' dunes (SAC feature) <i>Note: not as mobile as they should be due to presence of sea wall</i> | Vegetation damage – reduced extent of feature. Any increase from the current level of usage is likely to be damaging to this feature, though it is more resilient than the other dune features, due its inherent need for mobilisation. |
| Nutrient enrichment | SD6 | Nutrient enrichment leads to localised changes in species composition to a more nutrient tolerant sward. Considered a negligible effect in this vegetation community. |
| <p>3. Fixed dune/ heath features (including adjacent 'spreading room')</p> | | |
| Trampling | All vegetation features in fixed dune grassland/ heath (H1, M16, SD7 – SD12), breeding bird assemblage, vascular plant assemblage, natterjacks (SAC feature) | Vegetation damage – reduced extent of feature, changes in vegetation structure, changes in soil chemistry and/or community composition. Substrate damage can lead to a removal of the upper layers of the soil profile, and a shift to unvegetated sand. If damaged, the community is set back to the start of the successional process. Dependent on the current level of damage to the features from existing use. |
| Nutrient enrichment | All vegetation features (SAC feature) | Nutrient enrichment leads to localised changes in species composition to a more nutrient tolerant sward. |
| Disturbance | Breeding bird assemblage, natterjacks (SSSI features) (see category A/ EPS table above) | People and dogs causing disturbing activity, particularly during the breeding season. |

Assessment of current levels of anthropogenic erosion

The following assesses the current levels of anthropogenic erosion at Winterton-Horsey Dunes SSSI in relation to the broad dune features. This is related to the different attributes associated with erosion that apply to the different features. These can then be used to assess the potential impacts of the coastal access proposals on site feature condition.

The judgements on these attributes at the last condition assessment in 2008 were considered as being met. At that time it was judged that the anthropogenic mobilisation of the mobile dunes was at a beneficial level for the dynamics of the whole site. Since that time the reconnection of the mobile dunes in part with the beach, and increases in public use of the site have occurred. The site is not due for condition assessment until at least 2014, at which point there may be a different judgement on the meeting of bare ground attributes across the site, or within parts of the site. Until a full condition assessment is made, and the condition is deemed unfavourable, remedies cannot be put in place to address any issues identified. The judgements outlined below, therefore present an interim judgement based on the best available information, required in order to inform the assessment of coastal access proposals.

The following data and advice provides the evidence base for the judgements related to the current levels of use on the site, and potential increases in the usage of the site:

- Aerial photography (Next Perspectives, 2010) shows recent levels of bare sand across the site (Figure 1).
- Current and proposed alignment maps (NE Coastal Access team, September 2013), shows areas of eroded dune across the site.
- Remote sensing imagery (Environment Agency, 2013) shows the distribution of key features across the site, indicating where damage has occurred within the different features (Figure 2).
- Management zones (Norfolk Coast Partnership – Visitor Management Strategy, 1995) identified Winterton - Horsey Dunes SSSI as a 'red zone'. The implications of this designation are that, "these are defined as the most fragile wildlife habitats in the AONB, and yet are under considerable visitor pressure. The strategy denotes a strict management technique of not promoting to visitors, and the reduction of parking."
- The summary assessment for Winterton-Horsey SAC (Norfolk Wildlife Services, 2012) concluded that, "have such significant visitor pressure currently that they are already at or exceeding their carrying capacity", "existing visitor pressure may be damaging at times" and "any additional usage may have adverse effects on qualifying features."
- "For the dune heath, I would be looking for no increase in fragmentation and the ratio of bare sand to vegetated dune heath, perhaps also patch size of vegetation." (Sue Rees – Senior Environmental Specialist – Coastal Habitats, October 2013) This statement also relates to the lichen-rich dune grassland communities.
- The following are some observations of relevance from 'the access guidelines' (Natural England, 2009) (some of these are drawn from other research referenced in the report):

- a) The significance of open access needs to be judged in terms of the extent to which they compromise the favourable condition of the key features on the site (section 2.8.1);
- b) Management measures are deemed to be the preferred option for addressing concerns; where they are irreconcilable, conservation should prevail (section 2.8.1);
- c) Where statutory controls are required, these would normally involve restrictions to linear routes and/or controls on dogs (section 2.8.3);
- d) Measures applied should be the least stringent to protect the nature conservation interest of the site (section 2.8.4);
- e) Further survey is likely to be required to determine the implications for features (section 2.8.5);
- f) The potential effects on features are outlined in section 3;
- g) Path width increases with use, and erosion continues once it has started even if usage reduces (section 3.3.19); the effects are accentuated on slopes, which is relevant to Winterton (section 3.3.20);
- h) Sand dune features are sensitive to very low levels of usage, with damage occurring to features of interest (Table 3.2);
- i) Good path surfacing leads to a high percentage of users using the desired route, particularly where the adjacent ground is difficult; off path usage is greater where the adjacent ground is easier to traverse and there are existing alternative routes (sections 3.4.3 – 3.4.7); open access can lead to a proliferation of the path network (section 3.4.8);
- j) Assessing impacts needs to be site specific and related to the current condition of the site features as assessed through the favourable condition tables for the site (section 3.7);
- k) Dune features are highly sensitive to moderate/ high levels of trampling; dune heath is particularly sensitive; mobile dunes are the least resilient, though some mobilisation of sand is an inherent part of this feature (section 11.3); lichen-rich dune grassland (equates to SD11 at Winterton) is highly sensitive (probably more so than dune heath) (section 11.3.11);
- l) The density of paths on some dune systems is very high; a study in 1977 (Boorman & Fuller, 1977) at Winterton Dunes estimated paths to occupy 13.6% of the whole site (defined as 104ha, though it is unclear which section of the site this refers to without access to the original paper) (section 11.3.8); visitor usage is likely to have increased since 1977;
- m) Lichen-rich dunes are cited as one of the potential exceptions where it may be necessary to implement statutory restrictions (section 11.6.9). Dry dune heath is also highly sensitive.

FEATURE: STRANDLINE, EMBRYO AND MOBILE DUNE FEATURES

Relevant FCT attribute: *vehicle damage or trampling at vulnerable locations should be absent or rare*

Assessment of current use in relation to attribute:

- the strandline and embryonic dunes are transitory and resilient; they often occur in areas away from the heaviest pressure from people; there is likely to be some localised erosion directly out from Beach Road access and immediately to the north and south of this access point.
- The mobile dune features are the least resilient to damage, although some mobilisation of sand is an inherent part of the functioning of the whole dune succession; as this feature is essentially 'fixed' by the presence of the sea-wall, some anthropogenic mobilisation is beneficial to this feature.
- Aerial photography, the remote sensing analysis, the coastal access maps showing areas of erosion, the research cited in l) above has been used to determine the current levels of erosion in the mobile dune feature. Across the whole site, current usage is at, or close to failing, the attribute for this feature. In heavily used parts of the site, current usage is failing the attribute for this feature.

FEATURE: WET HEATH

Relevant FCT attribute: *>1% and <10% muddy, exposed substrate*

Assessment of current use in relation to attribute:

- The wet heath is a very restricted feature at Winterton, largely linked to the humid dune slacks. These tend to be in areas away from the main public use and therefore not subject to excessive trampling or disturbance.
- This feature is considered well within the parameters for this attribute at Winterton, and therefore not vulnerable to further pressure related to the coastal access provisions.

FEATURE: FIXED DUNE GRASSLAND

Relevant FCT attributes: *general – bare substrate present, but <10%; no specific attributes identified for SD11 (containing the lichen-rich dune grassland communities), but it is more sensitive than the dune heath where heavy disturbance should be <1%; final FCT will be amended to recognise SD11 as different from the other fixed grassland communities with a heavy disturbance level of <1% or less*

Assessment of current use in relation to attribute:

- The distribution of the fixed dune grassland communities is shown in Figures 3-6 and also broadly categorised in the remote sensing work (Figure 2); SD11 (the lichen-rich communities) are extensive at Winterton within the fixed dune grassland.
- The distribution of NVC communities on the site has not been assessed since 1989. It is proposed to resurvey the site in 2014. One of the objectives will be to assess any changes in the distribution and condition of the more sensitive communities, in particular.
- The SD11 lichen-rich communities are the most sensitive features present on the site. The impact of anthropogenic pressure can be clearly seen towards the western edge of the NNR where the community is extensive and in good condition in an area where public access is excluded, but much reduced in the area outside the exclusion.
- Damage to the fixed dune grassland communities can be identified by a switch to bare sand, mobile dune communities, or a shift from the SD11 lichen-rich communities to more grass/forb dominated dune grassland swards. A switch to bare sand sets the succession back to the beginning, and it can take a significant length of time (without ongoing disturbance) for the community to recover back to fixed dune grassland.
- Aerial photography, the remote sensing analysis, the coastal access maps showing areas of erosion, the research cited in l) above has been used to determine the current levels of erosion in the fixed dune grassland feature. Across the whole site, current usage is at, or close to failing, the attribute for this feature. In heavily used parts of the site, current usage is failing the attribute for this feature, particularly for the SD11 community. Boorman & Fuller (1977) showed a 13.6% level of erosion across 104ha of the site – this exceeds the 10% disturbance level for the SD7, SD9 and SD12 communities, let alone the 1% disturbance levels for the SD11 communities.

FEATURE: DRY DUNE HEATH

Relevant FCT attributes: *>1% and <10% firm, sunlit substrate (to benefit invertebrates); <1% heavily disturbed (e.g. by recreation)*

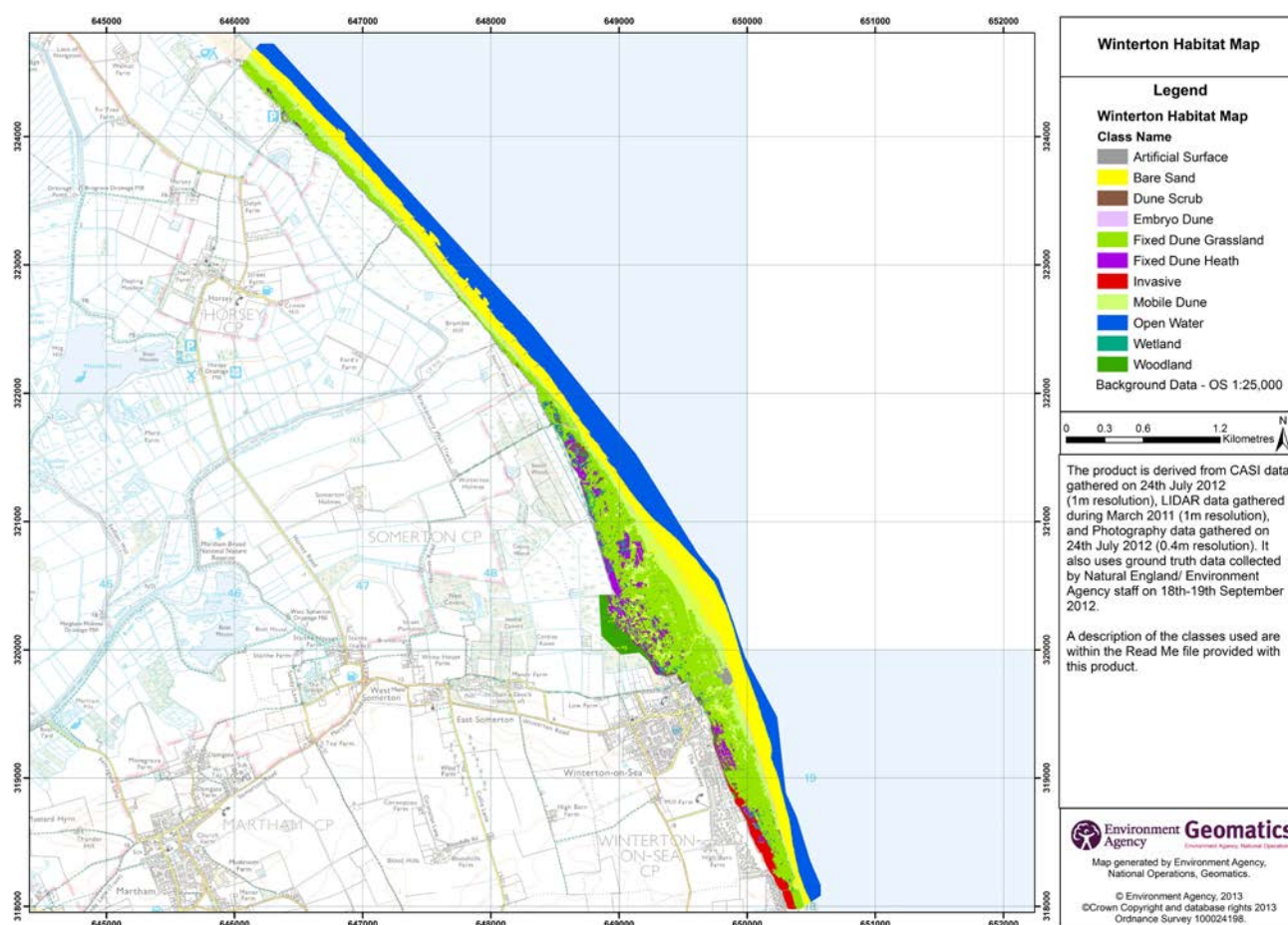
Assessment of current use in relation to attribute:

- The distribution of the dry dune heath communities is shown in Figures 3-6 and also broadly categorised in the remote sensing work (Figure 2).
- The distribution of NVC communities on the site has not been assessed since 1989. It is proposed to resurvey the site in 2014. One of the objectives will be to assess any changes in the distribution and condition of the more sensitive communities, in particular.
- The dry dune heath communities are highly sensitive to disturbance.
- Damage to the dry dune heath communities can be identified by a switch to bare sand, mobile dune communities, or fixed dune grassland communities. A switch to bare sand sets the succession back to the beginning, and it can take a significant length of time (without ongoing disturbance) for the community to recover back to dune heath.
- Aerial photography, the remote sensing analysis, the coastal access maps showing areas of erosion, the research cited in l) above has been used to determine the current levels of erosion in the dry dune heath feature. Across the whole site, current usage is at, or close to failing, the attribute for this feature. In heavily used parts of the site, current usage is failing the attribute for this feature. Boorman & Fuller (1977) showed a 13.6% level of erosion across 104ha of the site – this exceeds the 10% disturbance level for the SD7, SD9 and SD12 communities, let alone the 1% disturbance levels for the SD11 communities.

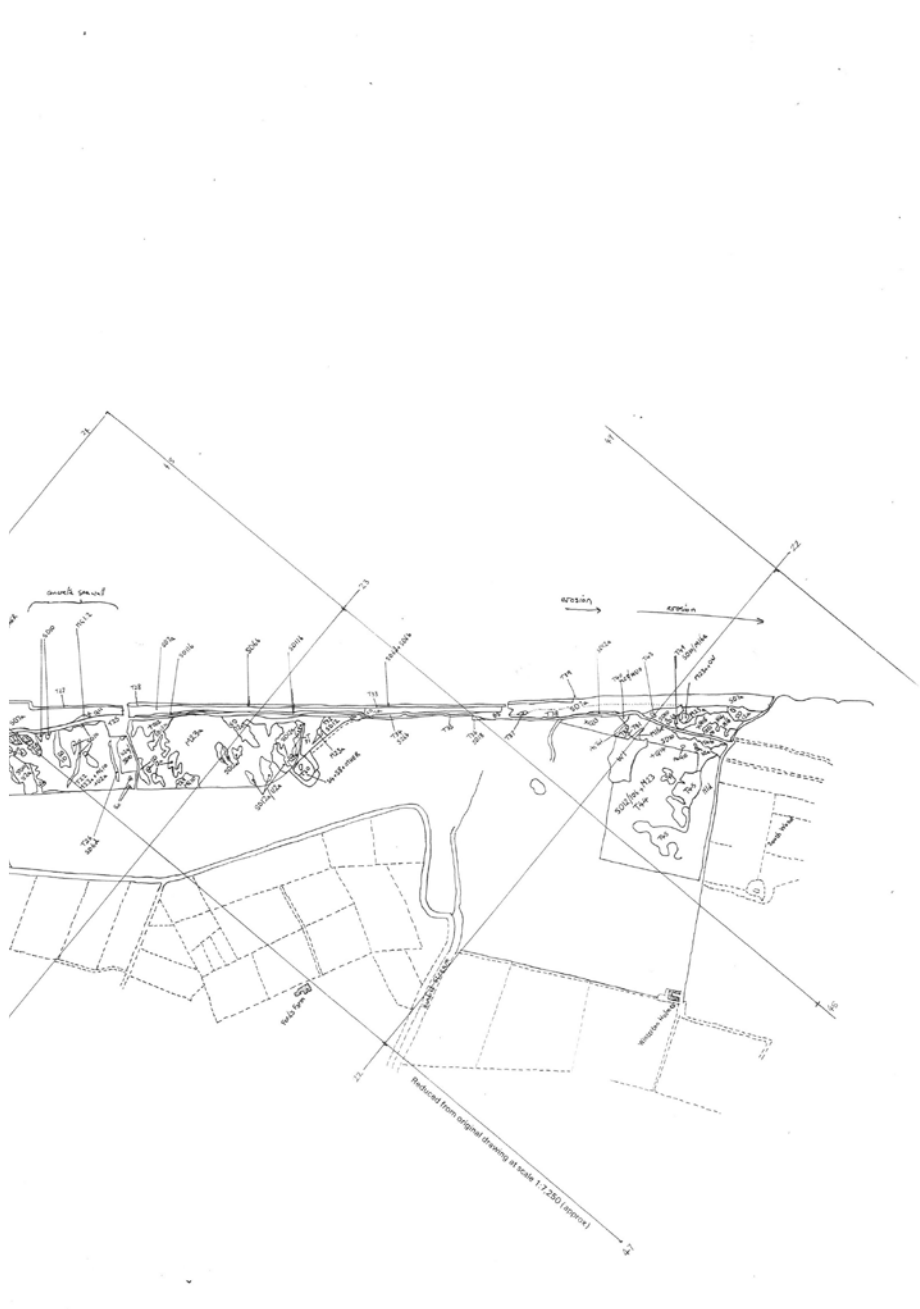
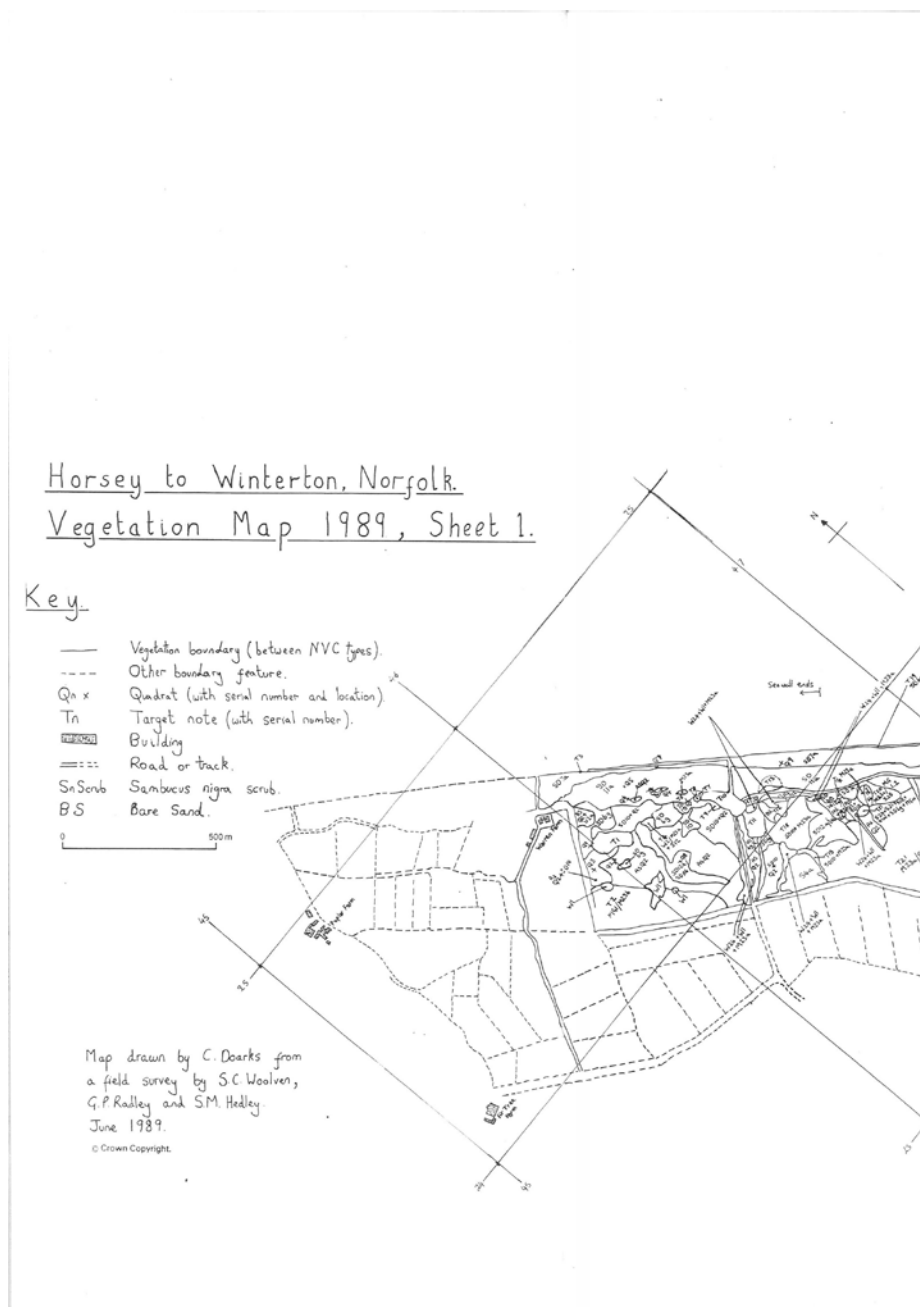
Figure 1 – aerial photography of the site 2010



Figure 2 – remote sensing analysis of the site 2012



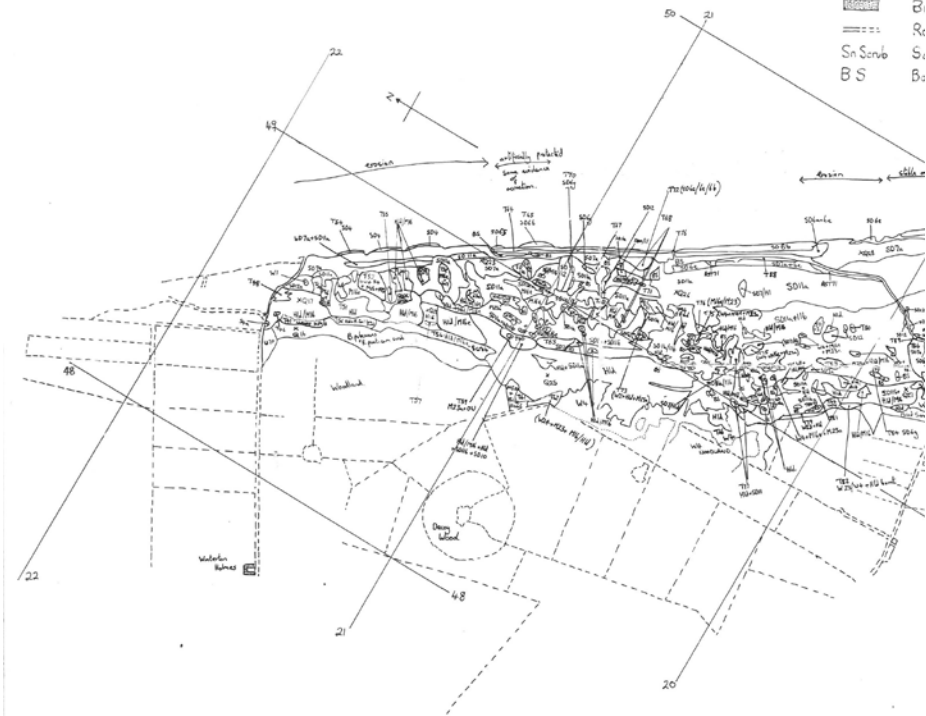
Figures 3-6 – NVC map of site (Doarks *et al*, 1989)



Horsey to Winte Vegetation Map

Key

| | |
|-------|----------------|
| — | V |
| - - - | O |
| Q/x | Q |
| Tn | T |
| □ | B |
| ==== | R |
| Sn | S |
| BS | B ₂ |



Norfolk 9, Sheet 2.

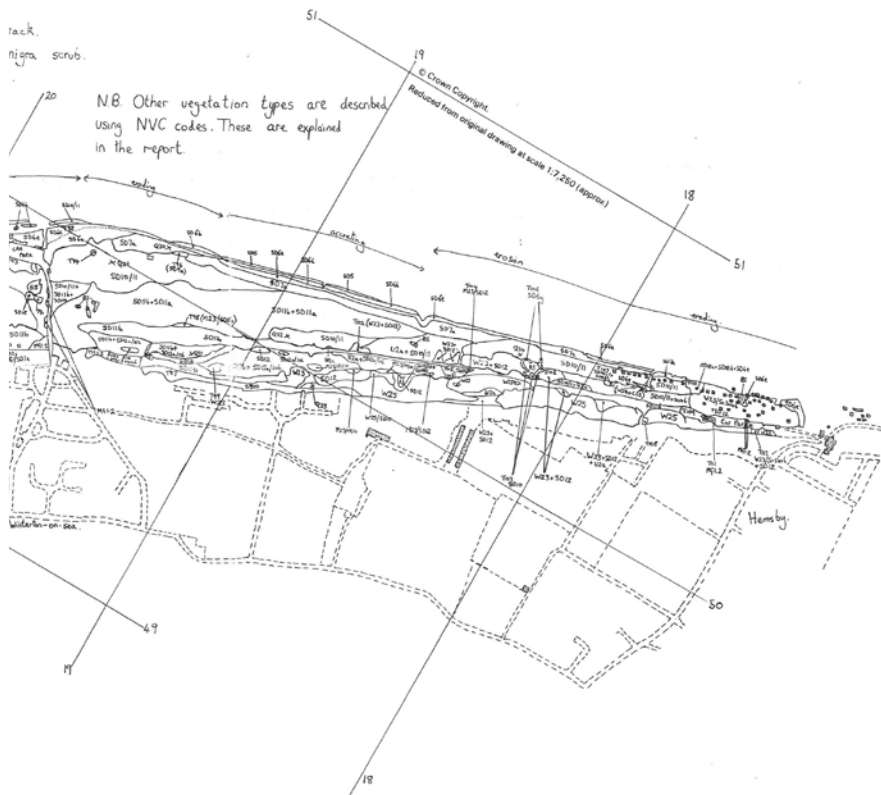
500m

undary (between NVC types),
any feature.
th serial number and location).
te (with serial number).

rack.
nigma scrub.

NB Other vegetation types are described
using NVC codes. These are explained
in the report.

Map drawn by C. Doaks from
a field survey by S.C. Woollen,
G.P. Ratley and S.M. Hedley.
June 1989.



Conclusions

The following are the conclusions of the stage 2 assessment:

- The category A/ EPS species are adequately protected on the site, due to measures already in place; data on nightjar and the breeding bird assemblage are insufficient to determine whether disturbance effects are currently occurring, or have the potential to occur.
- The whole site contains sensitive coastal dune features.
- A range of research and analysis has indicated that the site has been close to recreational carrying capacity and consequent impacts on site features for some time.
- This assessment concludes that strandline and embryo dune communities, and wet heath are currently meeting their bare ground attributes and therefore not impacted by current levels of recreational usage.
- The mobile dune feature is at, or close to, failing its bare ground attributes on this site. Due to the mobilisation of sand being an inherent component of this community, with consequent benefits for the whole dune succession, some anthropogenic mobilisation is beneficial. This is particularly the case at Winterton where the presence of the sea wall effectively 'fixes' the mobile dunes. If the mobilisation is at too high a level this can be detrimental. Mobile dunes are also able to recover more quickly than the other more fixed features on the site.
- The fixed dune grassland is at, or close to, failing its bare ground attributes on this site. The SD11 (lichen-rich dune grassland) is the most sensitive feature on the site, and is highly impacted by increases in disturbance.
- The dry dune heath is at, or close to, failing its bare ground attributes on this site. The dry dune heath is also highly sensitive. Any further anthropogenic damage to the mobile dune, fixed dune grassland and dry dune heath features on the site must be avoided.

References

Boorman, L.A. and Fuller, R.M., 1977. Studies on the impacts of paths on the dune vegetation at Winterton, Norfolk, England. *Biol. Conserv.*, **12**, 203-16

Doarks, C., Woolven, S.C., Radley, G.P. & Hedley, S.M., 1989, *National sand dune vegetation survey, Site Report No. 74 Winterton to Horsey Dunes, Norfolk 1989*, Nature Conservancy Council, Peterborough.

Natural England, 2009, *Countryside and Right of Way Act, 2000 Part 1: Access to the Countryside*, Natural England, Sheffield.

Norfolk Coast Partnership, 1995, *Visitor Management Strategy*, Norfolk Coast Partnership, Fakenham.

Norfolk Wildlife Services, 2012, *Study to assess the capacity of International Sites to accommodate visitor pressure*, Norfolk Wildlife Services, Norwich.

Completion of Stage 2 – Please complete as appropriate

Responsible Officer Signed:



Name: Adrian J. Gardiner

On behalf of Natural England

Date: July 1st 2013
(revised October 22nd 2013)

Stage 3 – Access Assessment

Please see the Guidance Note for detailed instructions on how to complete the mapping element of the Access Assessment. Refer to and summarise any mapped annotations, extra information and conclusions below.

NB. Where no access sensitive features have been identified as a result of Stage 2, the mapping process may not be necessary. Please refer to part 4.3 of the Guidance Note for more information.

| Current | Yes | No | Comments |
|---|-------------|----|--|
| Are the PROW and/or permissive paths and any open access land within and adjacent to the site boundaries well used? | X | | Network of permissive paths regularly used particularly from Winterton Ness southwards, the area incorporates the de facto access permitted within Winterton Dunes NNR. Popular surfaced PROW from Horsey Gap car park and southwards to Winterton Ness. Desire line of PROW becomes less obvious southwards from Winterton Ness to The Common and in parts is overgrown. PROW heavily used from Beach Road along "The Valley" to the southern end of SSSI boundary. Walked routes along some sections of the top of the dune ridge. |
| Are the routes / is access to the land actively promoted? | X | | Brown signs from major roads. Promoted via internet, organisations include Natural England, Tour Norfolk. |
| These routes are / the land is used mainly by; | walkers | X | Especially with dogs. |
| | horseriders | | |
| | cyclists | | |
| | | | Residents and holiday makers use long sandy beach, walking and bathing. Areas of high use localised where beach accessible by road. Water-based recreation including jet-skiing, motor cruising and angling. |
| Are there clear and defined access points to the site? If so give details | X | | Horsey Gap, Winterton-on-Sea Beach and Winterton Holme, with car parking facilities at Horsey Gap and Winterton-On-Sea. There is an access point at Hemsby, south of the SSSI. Beach Road serves as an access point for vehicles and pedestrians. PROW are signposted off Beach Road and at Horsey Gap. The PROW in the Valley provides pedestrian links to Hemsby and Newport to the south. Cross paths to the coast provide pedestrian access for residents at Hemsby village and Winterton. There are access points to the beach along this stretch of coast however the presence of groyne extending up to the sea wall in places inhibits onward walking along the beach in places. |
| Are you aware of or has the mapping exercise raised any particular management problems with existing routes? | X | | Fenced off areas across the dunes are in place at Horsey Gap during seal breeding season as a result of erosion caused by visitors coming to view the seals. Volunteer wardens actively manage the area. The breeding area for little terns is actively managed by RSPB including zoned areas with electric fencing, interpretation, and presence of 24 hour volunteer wardening. Whilst little tern wardening is effective, seal wardening is more problematic due to the significant increase in visitor numbers and consequent impacts on the dune system. |

| | | | |
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| | | | <p>The level of bare ground for the dune features of interest generally lie between 1 and 10%. This may not be met on some parts of the site or within some of the units on the site. It is intended that the level of erosion will be assessed in September.</p> <p>Local dog walkers do not always keep their dogs under control.</p> <p>The Winterton-on-Sea car park gets very busy during the summer months.</p> <p>Horse Gap car park is popular during the seal breeding period with local roads becoming congested. Construction of a new car park is being considered in an adjacent field.</p> <p>Significant cliffing on some of the mobile dunes particularly at the southern end of "The Valley"</p> <p>Site under considerable visitor pressure from locals and the wider region particularly at peak periods. Visitor management strategy 1995 indicates considering not promoting sites to visitors (Norfolk Wildlife Services 2012).</p> |
| Does any other organisation promote this site for horse riding or cycling? | | x | |
| Are there features on the site that will attract visitors e.g. viewpoint, waterfall, ruins, etc.? If so give details. | x | | <p>Sandy beach with easy access; café and toilets at Winterton-on-Sea</p> <p>Seals breeding at Horse Gap</p> <p>Little Terns breeding north of Winterton</p> <p>NNR - wildlife interest across the site</p> <p>Second world war pillbox south of Horse Gap (secondary interest)</p> |
| Are there features on the site that will detract visitors e.g. rough terrain, bogs etc.? If so give details | x | | <p>Rough terrain within the SSSI</p> <p>Narrow steep sand dunes between Horse Gap and the northern boundary of the NNR as well as at the southern end of The Valley.</p> |
| Are there car parks, lay-bys, bus stops, or any other visitor facilities (eg cycle hire centre, horse riding centre) providing or facilitating access to the site? | x | | <p>Car parks at Horse Gap (possibly to be relocated to a field adjacent to the road), Winterton Holmes, Winterton-on-Sea beach. There is also a car park at Hemsby, south of The Valley. Winterton beach car park has toilets and cafe facilities (closed during winter). Winterton village has overnight accommodation.</p> |
| Is there already de facto use of the site? If so give details of location and refer to mapped annotations. | x | | <p>North of Beach Road: a fence along the landward side of the walked routes defines the landward boundary of de facto access (landward boundary annotated by blue line on map). As the PROW approaches Beach Road the fence becomes overgrown with scrub, the boundary is defined by scrub line and garden fences. De facto access extends seaward to the mean high water mark. The dunes are very narrow near the northern end which makes de facto access seaward of the PROW difficult to access.</p> <p>South of Beach Road: De facto access continues to the boundary of the SSSI and onwards. The landward boundary is consistent with the boundary of the SSSI and extends seaward of the PROW to mean high water mark.</p> |
| Access data on current levels of use | | x | <p>No raw data appears available relating to this site. (Norfolk Wildlife Services 2012 & Senior Reserve Manager 2013)</p> |
| <p>Proposed Coastal Access trail alignment Identified by purple line on attached map and aligned along a currently walked route. From Horse Gap this will be consistent with the currently walked route and public right of way up to Winterton Ness where it will follow the existing walked route across to the dunes on the seaward side of the site. It will then follow parallel to the coast to the car park and take a desire line south of the car park to join Beach Road. From there it will then head WSW along Beach Road from the car-park until it connects up with the PROW and heads SSE Under the legislation, the beach and dunes would by default become part of the coastal margin and subject to access rights.</p> | | | |
| Predicted Access | Yes/No/Comments | | |
| Are new entrance points likely to develop on the site, and if so, where? | No. Sufficient access points already available | | |
| Are any new routes or areas of access (on foot, horse or bike) other than those proposed, likely to develop and, if so, where? | No new routes or areas of access likely to develop. Attractions at the site (identified above) already have walked paths to them including a surfaced path along Beach Road. There are existing walked desire lines through the proposed spreading room, we do not anticipate these patterns changing. | | |
| Are there likely to be any significant changes to access levels and patterns as a result of the <u>new</u> proposals that will affect the interest features/sensitive features specified in Stage 2? If so, record those features likely to be affected in the table in Stage 4 below | <p>Our National Trails team have provided the following evidence to assist in assessing access levels post introduction of coastal access.</p> <p>The figures have been calculated using information from The Norfolk Coast Path/ Peddars Way team who have a wealth of information about people using these trails based on automated counters and various face to face surveys and other questionnaires and on-line surveys of visitors.</p> <p>Using information from recent years, our National Trails team estimate that the Norfolk Coast Path has approx 2,000 through hikers a year – i.e. long distance users.</p> <p>Numbers vary hugely throughout the year but considering the monthly profile of visits to the Norfolk Coast Path and making some assumptions about weekend/ weekdays it is estimated there might be 40 through hikers over a busy weekend in the summer and maybe 5 a day during the week. Over the winter months the numbers will be much lower – a handful at weekends and occasionally during the week.</p> <p>The Norfolk Coast Path has been established and promoted for many years and they do not expect numbers of through hikers to be as high for newly opened trail.</p> <p>For information the number of long distance walkers with a dog is much less than for other visitors (7% of long distance walkers compared with 18% of short distance walkers).</p> <p>The Norfolk Coast Path Trail Manager expects a modest increase in long distance walkers to the site and believe they are unlikely to use spreading room. They believe increase of short day users is likely to be slow and dependent upon how site promoted.</p> <p>The Norfolk County Council Rights of Way Officer believes there could be an increase along whole stretch north of Gt Yarmouth as new areas of public access will be established and expressed concern of likely increase in use of current car parking facilities in the area. (30/3/13)</p> | | |

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| | <p><i>Taking these expert local views into account, the England Coast Path delivery team predicts that more people will walk along the proposed route of the trail than do at present. We expect that most of this increase will arise from long-distance walkers newly attracted to the site by its designation as a National Trail.</i></p> <p>We expect a small minority of long-distance walkers to leave the proposed route where it passes through the dunes in order to rest or picnic, or to join/leave the trail. Where they do, we would expect them to make their way to the car park.</p> <p>Some management measures may therefore be desirable along cross path routes where the conservation objective is to control the extent of erosion and/or to protect nesting birds. Such measures would also manage existing use more effectively (see 'Management Measures' stage 4).</p> <p>We also expect some redistribution of existing visitors to the proposed route from the other existing walked routes because people currently taking short walks along the coast are likely to favour a managed, way-marked route. This effect, if desirable in conservation terms, could be encouraged through sympathetic placement and content of interpretation panels.</p> <p>Any increase or redistribution of visitors will result in more dogs and/or a concentration of dogs. Where the conservation objective is to limit eutrophication or disturbance to birds, information and messages encouraging sympathetic behaviour by people who bring dogs may be desirable. We would expect this to limit these effects and to result in an overall reduction from their current levels over time.</p> <p>The predicted changes on site from the increased use by long distance walkers are based on the following assumptions.</p> <ul style="list-style-type: none"> • the Winterton Beach car park could act as a potential start/finish point for long distance walkers. • The main entry points are likely to be at the north and south of the site as well as the main car parks at Horsey Gap and Winterton Beach • Long distance walkers are likely to keep mainly to marked trail, unless a particular attraction draws them away including local amenities/services at Winterton, the beach, wildlife interests. <p>The most likely areas of increased use by long distance walkers are therefore the linked paths from the car parks to the trail and the proposed location of trail alignment along the existing walked path of the public right of way and other existing walked routes identified within the proposals.</p> <p>Long distance walkers' dogs may contribute a minor amount of dog mess, but insignificant compared to existing local dog walking activities.</p> |
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| Completion of Stage 3 –Please complete as appropriate | |
| Case Officer Signed: | Name: Diana Curtis |
| On behalf of Natural England | Date: 27/05/2014 |

Stage 4 – Identify Management Measures


Using the information gathered in Stages 1 to 3, complete the tables below identifying specific management measures to avoid negative effects on interest features/sensitive features listed in Reason for Designation in Stage 1. Refer to the Guidance note for more information and examples.

NB. Amend new proposals to integrate any available measures as necessary to avoid the likelihood of any impacts of new proposals. Record them in the table below. Apply the least restrictive option (see Guidance Note for more information)

| Interest Feature/Sensitive Feature and current access management issues. | Required access management measures (least restrictive option) |
|---|--|
| The following management measures are proposed based on the understanding that the site is at, or exceeding, carrying capacity and any additional usage may have adverse effects on qualifying features (Norfolk Wildlife Services, 2012). | |
| <p><i>The management measures listed generally apply to all features present on the site, unless otherwise stated.</i></p> | <p>Research</p> <p>Action for Coastal Access</p> <ol style="list-style-type: none"> 1. Research will be undertaken prior to the implementation of the proposal to determine if it is preferable in terms of the conservation objectives of the site, to channel users along a single route or disperse them across a wider area. The outcome of this research will inform the signage proposals for the trail, and the implementation of the range of other management measures across the site. <p>Context</p> <ol style="list-style-type: none"> 2. Remote sensing has been used to develop a broad habitat map using data from 2012 flights. This could also be used as a baseline for establishing and addressing current levels of habitat fragmentation (this also mapped tracks/bare sand). Data collected during 2013 by CEH on the wetland dune features of the site can also be used to assess changes, likely causes and remediation measures since the previous survey in 1989. 3. As no data appears to be available on visitor usage of the site the coastal access team will work with the site manager and local volunteers to establish a methodology and to facilitate visitor surveys to collect baseline data and monitor |

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| | <p>future recreational use of the site, including use by visitors with dogs. This will enable accurate assessment of predicted increases and the effectiveness of proposed access management measures.</p> <p>4. Advice will be sought on the management of visitors with dogs, through the NE call off contract, with Steve Jenkinson of the Kennel Club, this will inform interpretation and signage proposals for the site and the ongoing management of walkers with dogs in order to reduce eutrophication of the site and disturbance to notified and other important species using the site.</p> <p>Ongoing monitoring of changes in erosion associated with the coastal access path and its immediate environs.</p> <p>Action for SSSI Responsible Officer</p> <p>1. Repeat NVC vegetation surveys of the notified vegetation communities are essential to understand the habitat quality, feature condition and identify locations requiring restoration and re-connection of fragmented areas.</p> <p>2. The monitoring of erosion across the whole site associated with judgement of condition of the notified features. Ecological change of the notified features linked to anthropogenic effects, and data on the visitor usage of the site will be used to identify change resulting from coastal access implementation.</p> |
| | <p>Action for Coastal Access</p> <p>Surfacing Inert surfacing or board walk will be provided if identified as a requirement by the above research in agreement with the NNR Site Manager, SSSI RO and NE's dune specialist.</p> <p>Context: This is particularly required to reduce habitat fragmentation in the Beach Road area, by minimising path usage between the Coastal Path and local facilities.</p> |
| | <p>Action for Coastal Access</p> <p>Interpretation Interpretation panels, consistent with NE's NNR signage policy, will be placed at the entry points to the site providing information to raise visitor awareness of the conservation value and objectives for the site and encourage sympathetic behaviour. This will limit any increase in unwanted behaviour and over time will result in a positive change in existing visitor behaviour. Discussions could be held with the tourist board and the access authority to further promote such information and messages. Consideration should be given to the use of social media to promote key messages to the site users.</p> |
| | <p>Action for Coastal Access</p> <p>Links 2 Desire lines from the coastal access route to the public right of way will be identified and managed to create a circular route to ensure a reduction in the number of paths used and consequent habitat fragmentation.</p> |
| | <p>Action for Coastal Access</p> <p>Way-marking Waymarking will take into account the conclusions of the research and if advisable the proposed route of the trail and selected cross routes should be way-marked to channel both existing and new visitors to the site along them Context: The management aim for the site will be to provide clear routes where people want them – to and from the car-parks, beach, along the coast and to local services and focus any unwanted effects of existing and new visitor use along these routes where it can be effectively managed using the other techniques outlined in this table. Way-marking will need to be sympathetic to the landscape and done in a way to minimise the visual intrusion, and optimise their longevity.</p> |
| | <p>Action for Coastal Access</p> <p>Restoration</p> <p>Habitat restoration will be implemented as advised by the NNR Site Manager, SSSI RO and NE's dune specialist by fencing off areas to allow recovery and the provision of suitable signage to explain this activity to visitors.</p> <p>Context: The fixed dune heath and grassland communities have become fragmented due to trampling and natural changes, a rolling programme of habitat restoration should be implemented across the site.</p> |
| | <p>Context</p> <p>Little Tern Wardening The RSPB and NE currently organise seasonal wardening and fencing for the Little Terns nesting on the beach/ foredunes, which includes interpretation. These arrangements will continue to be necessary when the new access arrangements are introduced.</p> |

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| | <p>Context</p> <p>Seal Wardening Friends of Horsey Seals manage volunteer wardens during the seal breeding season with areas of the beach cordoned off. These arrangements will continue to be necessary when the new access arrangements are introduced.</p> |
| | <p>Context</p> <p>Horsey Gap car park The Horsey Gap car park was re-surfaced and parking allocation improved in October 2013. This improves the management of vehicles and people in the area during the seal breeding season, and throughout the year, reducing impacts on the adjacent mobile dune features.</p> |
| | <p>Action for Coastal Access</p> <p>Existing PRoW The public right of way running landward of the site will also be brought up to standard as part of the management proposals for the spreading room area. The site manager will also identify two desire lines from the public right of way to the proposed route which will be signed to provide opportunities for sea views, a circular walk and to facilitate the managed use of the site by local people and day visitors. The management of the PRoW and the links may involve a combination of surfacing, signage and interpretation. This will reduce trampling across the wider fixed dune heath and grassland communities, which are highly sensitive to erosion, and immediately adjacent to much of the PRoW.</p> |
| | <p>Action for Coastal Access</p> <p>Promotion The site will not be promoted under the coastal access programme, or subsequently through National Trails' management. The Coastal Access Team believe the management measures proposed will reduce and avoid effects by influencing visitor behaviour and reducing physical impacts through physical intervention and ongoing habitat restoration.</p> |

| Completion of Stage 4 – Please complete as appropriate | |
|--|--|
| Responsible Officer Signed: |  |
| On behalf of Natural England | Name: Adrian J. Gardiner |
| | Date: July 7 th 2014 Revised September 3rd 2014 |
| | |
| | |
| | |


Stage 5 – Screening Decision

Conclusion of Stage 5 and thus the Access and Nature Conservation Assessment – *please complete/delete as appropriate*

Taking account of all available management measures listed in the table above, are the features of the N2K site/SSSI/Sensitive feature likely to be affected by the proposals?

The appropriate implementation of the management measures identified above should ensure that there is no adverse effect on the European features resulting from the designation of the Coastal Access Path through Winterton Dunes SSSI.

Addressing the effects of the coastal access proposals on the SAC features should be compatible with furthering the conservation and enhancement of the special interest of the SSSI.

| Completion of Stage 5 – Please complete as appropriate | |
|--|---|
| Responsible Officer Signed: |  |
| On behalf of Natural England | Name: Adrian J. Gardiner |
| | Date: July 7 th 2014 |

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| <p>Stage 6</p> <p>CONCLUSION: No likely significant effect on the European features.</p> |
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Addressing the effects of the coastal access proposals on the SAC features should be compatible with furthering the conservation and enhancement of the special interest of the SSSI.

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Access proposals may be approved subject to the necessary management measures being incorporated.

Signed: 

Name: Dougal McNeil

On behalf of Natural England

Date: September 12th 2014

